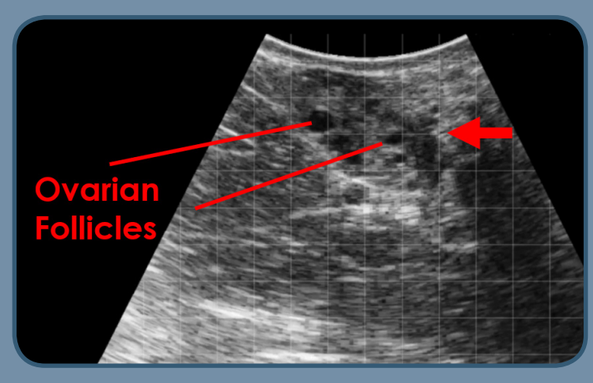
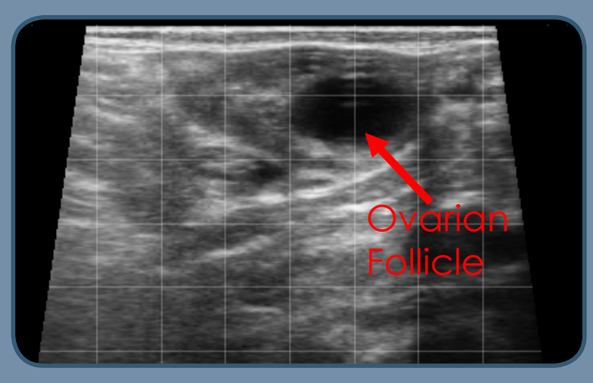
Bovine Reproductive Ultrasound Guide

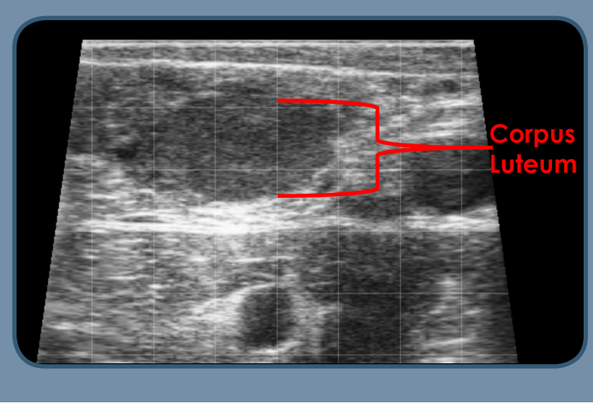
Evaluation of the bovine reproductive tract is an essential aspect of both beef and dairy herd management. Transrectal ultrasonography allows the visualization and evaluation of the ovaries, uterus, and surrounding structures. This information can help guide clinical decision making and improve herd efficiency and productivity.

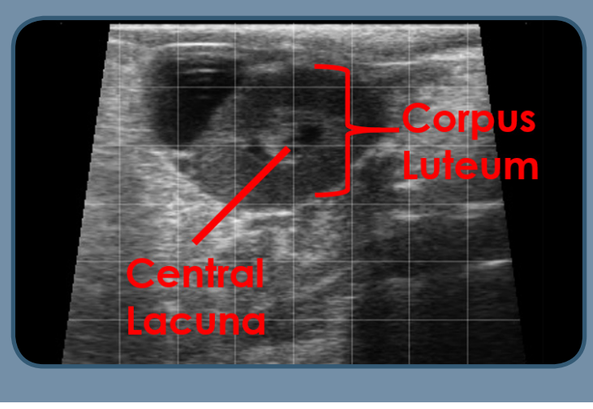
Bovine Ovary

The bovine oestrus cycle lasts 18 to 24 days. During this period, two to three follicular waves develop leading to the emergence of a dominant follicle. Whilst the corpus luteum maintains production of progesterone, the dominant follicles of the initial wave(s) will regress by atresia. Once luteolysis has occurred and progesterone declines, the dominant follicle of the last wave of the cycle may continue to develop and undergo ovulation.

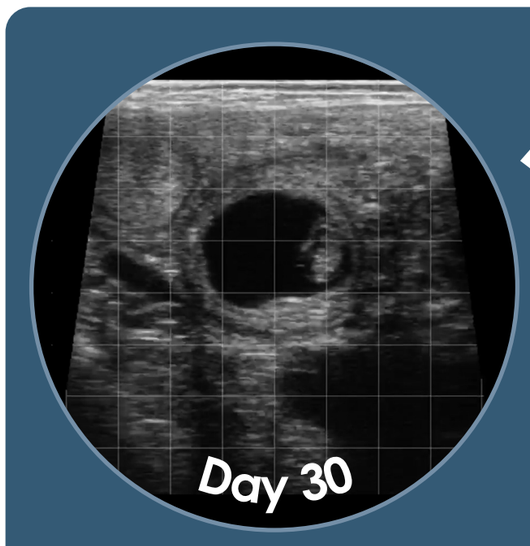


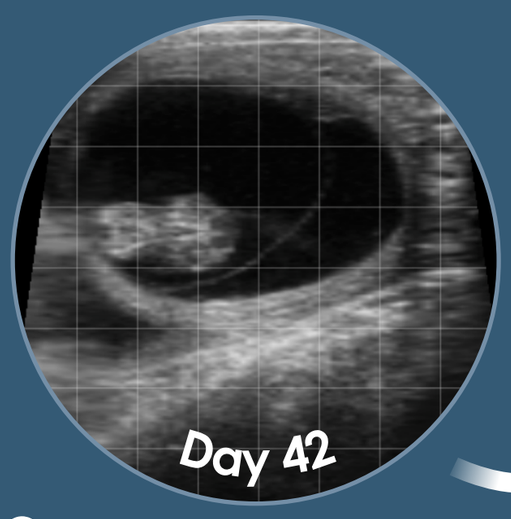


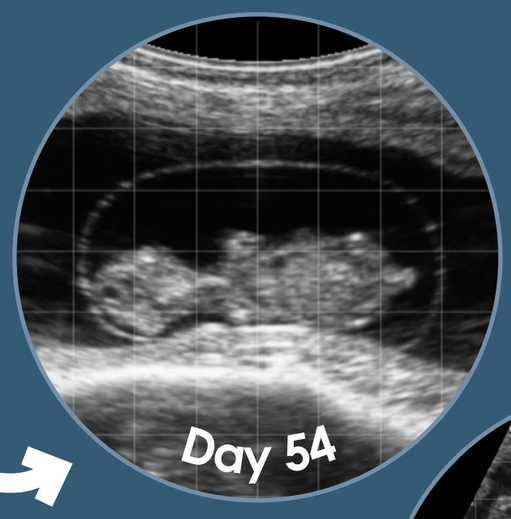


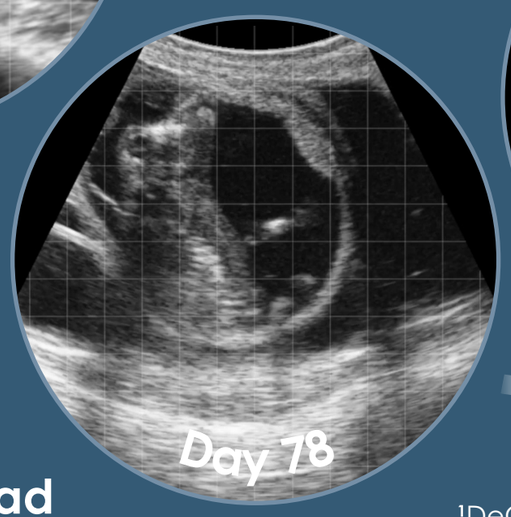


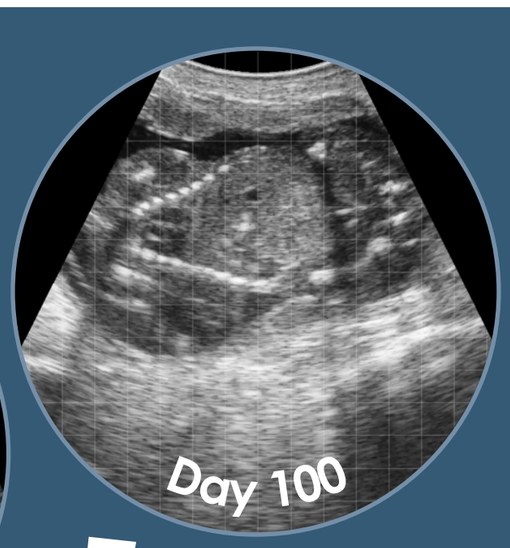
Fetal Development







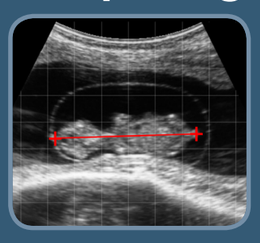




Ultrasound Landmarks of Fetal Development[1]

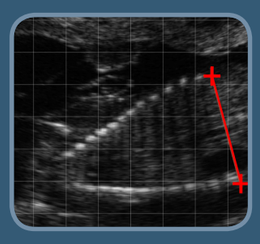
- Heart beat visible from day 25
- Placentomes visible from day 35
- Fetal movement visible from day 45-50
- Eye Diameter
  - 0.3cm at day 50
  - 1.0cm at day 90
- Fetal sex determination from day 55-60

Crown rump length



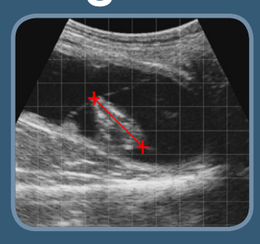
mm	days
15	34
20	39
25	42
30	45
35	48
40	50
45	52
50	54
60	57
70	60
80	62
90	64
100	66
110	67
120	69
130	70
140	71
150	72
160	73
170	74
180	75

Trunk diameter



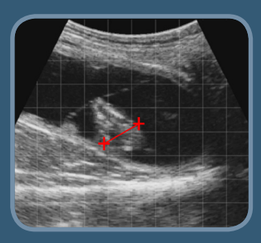
mm	days
15	54
20	65
25	73
30	80
35	86
40	91
45	95
50	99
55	103
60	106
70	112
80	117
90	121
100	125
110	128
120	132

Head length



mm	days
25	62
30	70
35	76
40	81
45	86
50	90
55	90
60	98
70	104
80	109
90	114
100	118
110	122
120	126
130	129
140	132

Head diameter



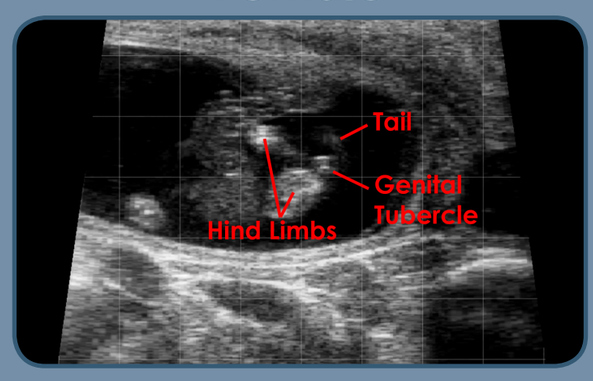
mm	days
15	56
20	69
25	79
30	87
35	94
40	100
45	105
50	110
60	118
70	125
80	131

[1]DeCôteaux L., Gnemmi G., Colloton J. (2010) Practical Atlas of Ruminant and Camelid Reproductive Ultrasonography 1st Edn., Wiley-Blackwell, Iowa, pp 81 - 124

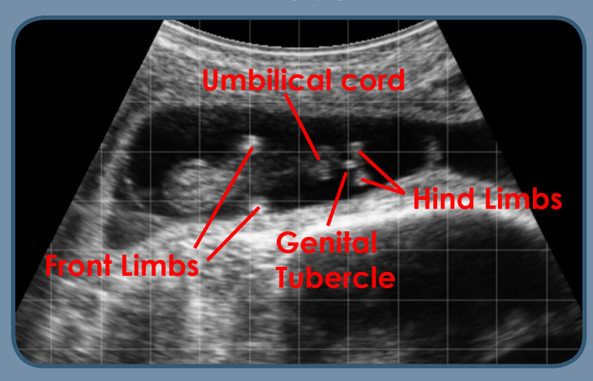
Fetal Sexing

Transrectal ultrasonography is useful for determining fetal sex by evaluating the location of the genital tubercle (precursor to the penis and clitoris). Ultrasound can be used to accurately determine fetal sex from day 55–60 post ovulation. The genital tubercle appears as parallel white lines and is located between the tail and hind limbs in the female. In the male fetus, it is located just caudal to the point where the umbilicus enters the body.

Female



Male



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